Umbilical Hernia

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Umbilical hernia is a common abdominal abnormality identified in infancy and is usually self-limiting. Only hernias that are very large, symptomatic, or persist past age three will require operative repair.

1. Pathophysiology:
   (a) Etiology: Results from failure of closure of the fascial ring through which the umbilical cord passes. This opening typically closes within a few weeks after the umbilical cord separates.
   (b) Epidemiology: More common in African-American and low birth weight children. Also associated with trisomy 21, congenital hypothyroidism, and Beckwith-Wiedemann syndrome.
   (c) Complications of umbilical hernia are rare.
      (i) Incarceration and/or strangulation.
      (ii) Injury to hernia resulting in rupture or evisceration.
2. Diagnosis:
   (a) Most are asymptomatic and are only identified by visualizing a bulging at the umbilicus.
   (b) Bulge may enlarge with straining and crying.
   (c) Small bowel and/or mesentery typically fill the hernia sac. Most are easily reducible.
   (d) Defect is often small (<1.5 cm) and palpable within the umbilicus.
   (e) There may be redundant skin overlying the umbilicus.

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C.P. Coppola et al. (eds.), *Pediatric Surgery*, DOI 10.1007/978-3-319-04340-1_36,

3. Treatment:
   (a) Reassurance: most spontaneously resolve within the first few years of life.
   (b) Surgical repair:
      (i) Reserved for:
         1. Large defects: >1.5 cm.
         2. Incarceration and/or strangulation.
         3. Children older than age three because resolution is rare after this age
   (c) Technique:
      (i) A general anesthetic is used for sedation. A transverse curvilinear infra-umbilical incision is made. The incision can usually be hidden within a skin fold. The hernia sac is dissected away from the fascia and disposed. Once the edges of the fascial defect are mobilized they are closed using either absorbable or nonabsorbable interrupted sutures. The underside of the umbilical dome is secured to the fascia with a suture. The skin is closed with a running subcuticular absorbable suture. Sometimes a pressure dressing is applied to avoid hematoma.
      (ii) Rarely a 2–3 layer fascial closure (vest-over-pants technique) or mesh repair is needed.
4. Outcomes:
   (a) Complications:
      (i) Wound hematoma.
      (ii) Wound infection.
      (iii) Recurrent hernia.